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Journal Publications:

Li, D. and Dhir, V.K., "Numerical Study of a Single Bubble sliding on a Downward Facing Heated Surface," accepted for publication in *J. of Heat Transfer*, 2007.

Li, D. and Dhir, V.K., "Numerical Study of Single Bubble Dynamics During Flow Boiling," accepted for publication in *J. of Heat Transfer*, 2007.

Wu, J., Dhir, V.K., and Qian, J., "Numerical Simulation of Subcooled Nucleate Boiling by Coupling Level Set Method with Moving Mesh Method," accepted for publication in *Numerical Heat Transfer, Part B: Fundamentals*, 2007.

Dhir, V.K., "Mechanistic Prediction of Nucleate Boiling Heat Transfer-Achievable or a Hopeless Task?" *J. of Heat Transfer*, Vol. 128, pp. 1-12, 2006.

Abarajith, H.S., Dhir, V.K., and Son, G., "Numerical Simulation of the Dynamics of Multiple Bubble Merger During Pool Boiling under Reduced Microgravity," *Multiphase Science and Technology*, Vol. 18, pp. 277-304, 2006.

Mukherjee, A. and Dhir V.K., "Study of Lateral Merger of Vapor Bubbles During Nucleate Pool Boiling," *J. of Heat Transfer*, Vol. 126, pp. 1023-1039, 2004.

Abarajith, H.S., Dhir, V.K., Warriar, G., and Son, G., 2004, "Numerical Simulation and Experimental Validation of the Dynamics of Multiple Bubble Merger During Pool Boiling under Microgravity Conditions," *Annals of the New York Academy of Sciences*, 1027, pp. 235-258.

Qiu, D.M., Dhir, V.K., Chao, D., Hasan, M.M., Neumann, E., Yee, G., and Birchenough, A., "Single Bubble Dynamics during Pool Boiling under Low Gravity Conditions," *AIAA J. of Thermophysics and Heat Transfer*, Vol. 16, No. 3, pp. 336-445, 2002.

Son, G., Ramanujapu, N., and Dhir, V.K., "Numerical Simulation of Bubble Merger Process on a Single Nucleation Site During Pool Nucleate Boiling," *J. of Heat Transfer*, Vol. 124, pp. 51-72, 2002.

Qiu, D.M., Son, G., Dhir, V.K., Chao, D., Logsdon, K., "Dynamics of Single and Multiple Bubbles and Associated Heat Transfer in Nucleate Boiling Under Low Gravity Conditions," *Ann. N.Y. Academy of Sciences*, Vol. 974, pp. 1-20, 2002.

Qiu, D.M., and Dhir, V.K., "Experimental Study of Flow Pattern and Heat Transfer Associated with a Bubble Sliding on Inclined Surfaces," *Experimental Thermal and Fluid Science*, Vol. 26, pp. 605-616, 2002.

Dhir, V. K., "Numerical Simulations of Pool Boiling Heat Transfer", *AIChE Journal*, Vol. 47, pp. 813-834, 2001.

Dhir, V.K., "Boiling Heat Transfer," *Annual Reviews of Fluid Mechanics*, Vol. 30:365-401, 1998.

Qui, D. and Dhir, V.K., "Measurement of refractive index of PF-5060," *Experimental and Thermal Fluid Sciences* vol. 19, pp. 168-171, 1999.

Conference Proceedings:

Li, D., and V.K. Dhir, 2005, "Single Bubble Dynamics during Flow Boiling on A Horizontal Surface at Different Gravity Levels", 2005 Summer Heat Transfer Conference.

Li, D., Manickam, S. and V.K. Dhir, 2005, "A Numerical Study of A Single Bubble Sliding on a Downward Facing Heating Surface", 2005 Summer Heat Transfer Conference.

Dhir, V.K., Abarajith, H.S. and Li, D., "Bubble dynamics and heat transfer during pool and flow boiling," Paper No. K1, Proceedings of the 4th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, HEFAT 2005, Cairo, Egypt, (2005).

Dhir, V.K., Abarajith, H.S., and Warriar, G.R., 2005, "From Nano to Micro to Macro Scales in Boiling," *Microscale Heat Transfer - Fundamentals and Applications*, (Edits) S. Kakac, L.L. Vasiliev, Y.Bayazitoglu, and Y.Yener, Proceedings of NATO-ASI Meeting, NATO Science Series II: Mathematics, Physics and Chemistry, Vol. 193, Kulwer Academic Publishers, The Netherlands.

Abarajith, H.S. , Dhir, V.K., Son, G., "Numerical Simulation of the Dynamics of Multiple Bubble Merger during Pool Boiling under Reduced Gravity Conditions", Proceedings of US-Japan Workshop on Multiphase Flows, Japan, Dec-2004.

Aparajith, H.S., Dhir, V.K., Warriar, G.R., and Son, G., "Numerical Simulation and Experimental Validation of the Dynamics of Multiple Bubble Merger During Pool Boiling Under Microgravity Conditions." Proceedings of the Microgravity Transport Processes in Fluid, Thermal, Boilological, and Material Sciences III, Davos, Switzerland, September 2003.

Aparajith, H.S., Qiu, D.M., and Dhir, V.K., "Numerical Simulation and Experimental Validation of the Dynamics of a Single Bubble During Pool Boiling Under Constant and Time-Varying Reduced Gravity Conditions," ASME Heat Transfer Conference, Las Vegas Nevada, July 20-23, 2003.

Mukherjee, A., Dhir V.K., "Numerical Flow s Study of Lateral Merger of Vapor Bubbles During Nucleate Pool Boiling," ASME Heat Transfer Conference, Las Vegas, Nevada, July 20-23, 2003.

Manickam, S. and Dhir, V.K., "Holographic Interferometric Study of Heat Transfer Associated with a Single Vapor Bubble Sliding along a Downward Facing Heater Surface," Proceedings of ASME Heat Transfer Conference Las Vegas, Nevada, July 20-23, 2003.

Dhir, V.K., "Boiling under Microgravity Conditions," Keynote paper published in Proceedings of 12th International Heat Transfer Conference, August 2002, Grenoble, France.

Qiu, D., and Dhir, V. K., "Experimental Study of Flow Pattern and Heat Transfer Associated with a Bubble Sliding on Inclined Surfaces", 4th International Conference on Multiphase Flow, May, 2001, New Orleans, LA.

Bai, Q., and Dhir, V.K., "Numerical Simulation of Bubble Dynamics in the Presence of Boron in the Liquid," Proceedings of IMECE'01, November 11-16, 2001, New York, NY.

Qiu, M., Singh, S. and Dhir, V. K., "Dynamics of Bubble Growth on a Heated Surface Under Low Gravity Conditions", Proc. of Space Power Conference, January 2000, Albuquerque, NM.

Qiu, D., Dhir, V. K., Hasan, M. M., Chao, D., Neumann, E., Yee, G., Birchenough, A., and Withrow, J., "Dynamics of Bubble Growth on a Heated Surface Under Low Gravity Conditions", AIAA Paper No. 2000-0852, January 10-13, 2000, Reno, NV.

Qiu, D. M., Dhir, V. K., Hassan, M., and Chao, D., "Dynamics of Single and Multiple Bubbles During Nucleate Boiling Under Low Gravity Conditions", National Heat Transfer Conference, August 2000, Pittsburgh.

Ramanujapu, N., and Dhir, V. K., "On the Formation of Vapor Columns and Mushrooms Bubbles During Nucleate Boiling on a Horizontal Surface", National Heat Transfer Conference, August 2000, Pittsburgh.

Dhir, V.K., "On the Use of Numerical Simulations to Augment Our Understanding of Boiling Heat Transfer," Proceedings of the 34th National Heat Transfer Conference, August 20-22, 2000, Pittsburgh, PA.